

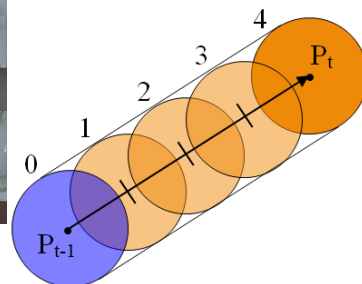


Project ExtraBees

Authors

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- basic scene graph programming
- table with Mahogany wood texture and normal map
- CPU based particle system
 - basic framework
 - supports simple physics
 - renders particles as point sprites
 - rain, fire and fireflies as realization of particle system



taken from Stupid OpenGL Shader Tricks
by Simon Green

- shader manager
 - avoid overhead by integration of shader in state machine
- shader programming
 - distance fog
 - toon shader with colors
- post processing
 - motion blur

Helicopter, Animation

Richard



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Basic scene graph programming and positioning of the scene, animation, texturing

Helicopter model (~2500 polygons)

- Helicopter and camera paths are realized with bezier paths (7 paths with 4 to 10 control points)
- in the video: window with reflection via dynamic cubemap

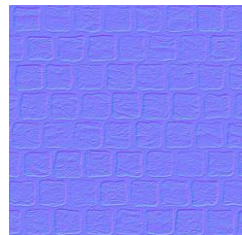
Used particle system to create flame effect.

- Emitter in form of an ellipsoid



Normal Mapping

- Two textures per Object
- Second texture contains normals based on the first color texture
- Shader uses the second texture to get the new normal vector for basic phong shading equation



- Glass Model by Maya
- Lamp Model by Maya
- Combine some Models to overview the performance in Maya
- Dynamic CubeMap Reflection on Glass
- Second Camera Path by Bezier Curve
- Some configuration stuffs on Fireflies



Temple

- Modeled with maya
- comprised of polygon cubes and cylinder
- textured so it is look like made of marble



Firefly effect

- Used particle system to create this effect
- Particles are moving around the lamps in our scene in various colors and random movement variations
- Particles have various colors and they give the impression of glowing

Summary



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Programming

Scenegraph
Shadermanager
Particle system
Dynamic cube-mapping

Maarten, Richard
Maarten
Maarten
Maarten, Richard, Sijia

Modelling

Table
Helicopter
Glass, Lamp
Temple

Maarten
Richard
Sijia
Andreas

Animation

Helicopter
Bezier-Curves
Particle effects
 Rain
 Flame
 Fireflies

Richard
Richard, Sijia

Maarten
Richard
Andreas, Maarten

Shader

Fog, Motion Blur, ColorToon
Normal-mapping

Maarten
Richard



Thank you for listening!